

REMARKS

The above amendment is believed to correct apparent errors in the specification and to place the claims in better condition for examination. Early and favorable action is awaited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "Version with markings to show changes made."

In the event there are any additional fees required, please charge our Deposit Account No. 01-2340.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES NAME

Paragraph beginning at page 6, line 17 has been amended as follows:

Sn is uniformly dispersed in the aluminum matrix. Sn preferentially adheres on the opposite shaft and thus prevents the sliding of the same kind of material, i.e., Al adhered on the opposite shaft and Al of the bearing. The seizure resistance is, thus, enhanced. When the Sn content is less than 0.1 %, Sn is slightly effective for enhancing the lubricating property. When the Sn content exceeds 30%, the strength of the alloy is lowered. A preferable Sn content is from 5 to 25%. [The coarsening of Sn particles is prevented by the presence of in close vicinity of the Sn particles and hence the fatigue resistance is apparently enhanced].

Paragraphs beginning at page 7, line 14 and line 34 have been amended as follows:

The first aluminum alloy containing these additive elements (excluding the second 15 aluminum alloy) consists of Al crystals in which these elements are solid-dissolved (i.e., the Al solid-solution), or Al crystals (including the Al solid-solution) and other phases. The other phases are a crystallized phase, a precipitated phase, a decomposed phase or the like. These phases are a metal, an intermetallic compound, or other compounds. That is, if the first aluminum alloy (excluding the second aluminum alloy) consists only 20 of these compounds or the like, the binder effect of the aluminum alloy is not realized. It is, therefore, preferable that only the [Cu] Al crystals are an essential component of the present invention. However, the second aluminum alloy may consist only of chemical compounds or the like.

The entire composition of this composite material is preferably Cu: 8-82%, Al: 35 5-50%, Pb: 32% or less, Si: 5-50%, and Sn. 21% or less by weight percentage (claim 17).

In the Claims:

Claims 3-4, 6, 23-26, 29, 30-36 have been amended as follows:

3. (Amended) A flame-sprayed copper-aluminum composite material according to claim 1 [or 2], wherein said first aluminum alloy comprises a second aluminum alloy, which is formed by incorporating said copper or a component of the first copper alloy into the first aluminum alloy, by to flame-spraying.

4. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 1 through 3] claim 2 or 3, characterized in that the main structure consists of the unmelted phase of the copper or the first copper alloy and the melted phase of aluminum or the second aluminum alloy.

6. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 1 through 5] claim 1, wherein said first copper alloy comprises Pb, and said first aluminum alloy comprises Si.

23. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 1 through 22] claim 3, wherein at least a portion of said first copper alloy (except for the second copper alloy) consists of Cu crystals, and at least a portion of said first aluminum alloy (except for the second aluminum alloy) consists of Al crystals.

24. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 6 through 23] claim 6, characterized by further containing 30% by weight or less of graphite particles.

25. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 1 through 24] claim 1, characterized by further containing 30% by weight or less of one or more selected from the group consisting of Al_2O_3 , SiO_2 , SiC, ZrO_2 , Si_3N_4 , BN, AlN, TiN, TiC, B_4C , as well as iron-phosphorus, iron-boron, and iron-nitrogen compounds.

26. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 1 through 25] claim 1, wherein it is laminated on a substrate and is coated with a soft metal layer.

29. (Amended) A flame-sprayed copper-aluminum composite material according to [anyone of claims 1 through 25] claim 2 or 3, characterized in that said flame-sprayed surface layer is coated with a film, which comprises MoS₂ or graphite or a mixture of MoS₂ and graphite.

33. (Amended) A method for producing a copper-aluminum composite material according to [anyone of claims 30 through 32] claim 30 or 31, characterized by further flame spraying 30% by weight or less of graphite powder.

34. (Amended) A method for producing a copper-aluminum composite material according to [anyone of claims 30 through 33], claim 30 or 31 characterized by further flame spraying 30% by weight or less of one or more selected from the group consisting of Al₂O₃, SiO₂, SiC, ZrO₂, Si₃N₄, BN, AlN, TiN, TiC, B₄C, as well as iron-phosphorus, iron-boron, and iron -nitrogen compounds.

35. (Amended) A method for producing a copper-aluminum composite material according to [anyone of claims 30 through 34] claim 30 or 31, wherein the flame spraying is carried out on a roughened surface of a metallic substrate.

36. (Amended) A method for producing a copper-aluminum composite material according to [anyone of claims 30 through 34] claim 30 or 31, wherein heat treatment of the flame- sprayed layer is carried out subsequent to the flame spraying.